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Application No. <u>09206132</u>	Prepared by <u>ewc</u>	Tracking Number <u>05874534</u>	
Examiner-GAU <u>Guzo</u>	Date <u>1-23-04</u>	Week Date <u>12-15-03</u>	
<u>1636</u>	No. of queries <u>-1-</u>	<u>IFW</u>	

JACKET			
a. Serial No.	f. Foreign Priority	k. Print Claim(s)	p. PTO-1449
b. Applicant(s)	g. Disclaimer	l. Print Fig.	q. PTOL-85b
c. Continuing Data	h. Microfiche Appendix	m. Searched Column	r. Abstract
d. PCT	i. Title	n. PTO-270/328	s. Sheets/Figs
e. Domestic Priority	j. Claims Allowed	o. PTO-892	t. Other

SPECIFICATION	MESSAGE
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b. Text Continuity	<u>Is there date missing</u>
c. Holes through Data	<u>after word "grant"?</u>
d. Other Missing Text	
e. Illegible Text	<u>Please advise</u>
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g. Brief Description	
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i. Appendix	
j. Amendments	
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TUMOR CELLS MODIFIED TO EXPRESS B7-2 AND B7-3 WITH INCREASED IMMUNOGENICITY AND USES THEREFOR

5 Government Funding

Work described herein was supported under grant ^a awarded by the National Institutes of Health. The U.S. government therefore may have certain rights to this invention.

10 Related Applications

This application is a Continuation-in-part of U.S. Serial No. 08/147,773 filed November 3, 1993 entitled "Tumor Cells Modified to Express B7-2 and B7-3 with Increased Immunogenicity and Uses Therefor". The contents of this application is incorporated herein by reference.

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Background of the Invention

Induction of a T lymphocyte response is a critical initial step in a host's immune response. Activation of T cells results in T cell proliferation, cytokine production by T cells and generation of T cell-mediated effector functions. T cell activation requires an antigen-specific signal, often called a primary activation signal, which results from stimulation of a clonally-distributed T cell receptor (hereafter TcR) present on the surface of the T cell. This antigen-specific signal is usually in the form of an antigenic peptide bound either to a major histocompatibility complex (hereafter MHC) class I protein or an MHC class II protein present on the surface of an antigen presenting cell (hereafter APC). CD4+ T cells recognize peptides associated with class II molecules. Class II molecules are found on a limited number of cell types, primarily B cells, monocytes/macrophages and dendritic cells, and, in most cases, present peptides derived from proteins taken up from the extracellular environment. In contrast, CD8+ T cells recognize peptides associated with class I molecules. Class I molecules are found on almost all cell types and, in most cases, present peptides derived from endogenously synthesized proteins. For a review see Germain, R., *Nature* 322, 687-691 (1986).

It has now been established that, in addition to an antigen-specific primary activation signal, T cells also require a second, non-antigen specific, signal to induce full T cell proliferation and/or cytokine production. This phenomenon has been termed costimulation. Mueller, D.L., et al., *Annu. Rev. Immunol.* 7, 445-480 (1989). Like the antigen-specific signal, the costimulatory signal is triggered by a molecule on the surface of the antigen presenting cell. A costimulatory molecule, the B lymphocyte antigen B7, has been identified on activated B cells and other APCs. Freeman, G.J., et al., *J. Immunol.* 139, 3260-3267 (1987); Freeman, G.J., et al., *J. Immunol.* 143, 2714-2722 (1989). Binding of B7 to a ligand